Tips for leading discussion groups

Mary O'Connor and the Biodiversity Discussion Group (BDG), University of British Columbia

If the goal of BDG is to explore topics related to Biodiversity, then a good discussion should explore the principles of biodiversity, their influence on patterns and process, and the state of the field in general. These big questions should be themes in each discussion.

1. **Introduce the topic and set the stage for discussion (5 mins)**:
    a. **Provide context for the topic in the field of biodiversity studies (ecology/evolution).** State the central question for discussion (or of the paper), and explain why that question is important for our collective (scientific) understanding of biodiversity's causes and consequences. What work does the question/paper build on, or what work followed it that has been important. Convey this information in 3-5 minutes.
        i. **Tips for developing these introductory points:**
            1. Deliver them verbally, or use the white board. Be concise – only tell us what we need to know!
            2. Read the introduction of the paper carefully, and follow up with one or two of the general references they cite.
            3. Possible sources for context: a textbook chapter, Wikipedia, nature.org editorials, review articles.
            4. Consult an expert (fellow student or faculty member), interview them and base your remarks on their perspective
            5. Invite an expert to come and give the brief introduction. Bringing Faculty to BDG is strongly encouraged!
    b. **Explain the essentials of the paper.** Provide a *brief* summary of the paper (if relevant to discussion), stating the main premise, the methods, main conclusions and take home message.
        i. **Tips:**
            1. Give everyone 1 minute to talk with their neighbor about the paper and what they might not have understood. Then spend a few minutes collectively making sure everyone understands definitions, methods, etc.
            2. Keep this section short! If bigger questions come up, save them for later. Don't get bogged down in details, but move on to the main question or focus of discussion.
    c. Define the scope of the BDG discussion. Is there a controversy we want to explore? What are the main questions we'd like to discuss? Should we try to reach an answer to our main question by the end of the hour?

2. **Some formats or tools for structuring a discussion:**
    a. **Set up a debate**. Ask people to consider one of two sides of a particular issue. You could have two leaders, each arguing a point, or you could introduce the two arguments and ask people to take sides, or just to jump into the discussion. For example, is macroecology relevant to local ecological studies? Is open science good for researchers? Is neutral theory applicable to understanding patterns of diversity?
    b. **Answer a question**. The discussion leader could pose a question and then push the group to answer it by the end of the hour. For example, what is most important and testable research question that emerges from the paper we're

reading? Should we keep doing local experiments? Should ecologists learn new statistical methods? Is biodiversity a meaningful concept for scientists?

c. **Identify a new question**. Steer the discussion so that at the end, people can answer a question about whey they have learned through the discussion, and what they now want to know.
d. **Move from opinions to consensus on the strengths of a paper**. Begin with a lightening round in which everyone states what they think is the *strength* of the paper. In this round, everyone contributes a thought, and no one responds directly to those thoughts. Then, after that, begin a discussion of which strengths are strongest, and why. See if we can converge on 1-2 strengths of the work. Then, repeat for weaknesses. In this context, the discussion should focus on pin pointing the take home message of the paper, and where it might contribute or fail in a broader context.

3. **Be a strong facilitator**.
    a. Stay true to your planned discussion question – too many tangents can be frustrating. Acknowledge tangents and then bring us back to the focus.
    b. Pause part way through the discussion and give those who have not yet spoken a chance to participate. Pause for 5 minutes – silence is ok here, it gives people a chance to speak.
    c. Encourage people to support opinions, and for the discussion to occur with the framework of science. Unsupported opinions, or opinions offered without direction, can stifle discussion, and the facilitator should steer us away from these.

4. **Make sure the participants are prepared**. Encourage the group to consider some questions in advance, so they will contribute to the discussion. And, as a participant, be prepared!

5. **Summarize**. In the last couple of minutes, summarize discussion. Start with how well you address the debate or question you started with, and then acknowledge other interesting developments that came up. Send a brief summary email to the group afterwards.

General tips for a good discussion, based on a list of points at http://www.wikihow.com/Lead-a-Discussion.

1. ***Articulate the topic of discussion***. The broad topic - something like 'dispersal' – is too broad for good discussion. A more focused topic may be a particular question about or implication of dispersal. To foster a good discussion, identify a topic that will support discussion on a scientific problem or subject. So, 'this paper' is not a great topic. A more interesting topic would be thing like: Does this paper make a meaningful contribution to the question of X, and why?
2. ***Pick a starting question***. Good starting questions are not too broad, and not to specific. Avoid 'Yes/No' questions, and really broad questions like 'what did you think of this paper?' Really broad questions will lead to people who like to talk sharing their opinions, and others not talking. A good starting question might be something that allows us to review the paper a bit: What is the premise of this paper? What conceptual problems does the paper address?
3. ***Be prepared***. As the discussion leader, be prepared with 1-3 good questions that will stimulate discussion. Maybe also be prepared with a bit of background on the issue (5 minutes or so).
4. ***Make arguments***. One successful approach here is to find a fried and each take an opposing view of the main question. Ask the group to join in, and consider their on opinion. *But, don't just share your feelings or opinions without backing them up* (!!). If someone makes an assertion, ask why they say that, and then consider evidence that may support or contradict certain claims. As the leader, you can offer an argument, and then ask the group to consider evidence for or against the point. For example, you could suggest that 'despite experiments like this one, it's not clear that diversity affects ecosystem function. These effect sizes are small, and can't be biologically important compared to other drivers of function. Do people find this experiment convincing of the underlying hypothesis that diversity affects function?'
5. ***Move from the known to the unknown***. If the group seems to be settling onto topics or opinions they are comfortable with, ask the group to move to an aspect of the topic they don't understand. Challenge them to identify the next critical questions that need to be asked to advance (or destroy) this field or line of inquiry, or to consider an approach for doing it. Consider how the finding of the paper or the present discussion might inform other fields or questions. That may inspire someone with an idea for an experiment!
6. ***Facilitate discussion from everyone***. If one topic or subset of people is dominating, pause the discussion and encourage others to speak, or to change the topic.
7. ***Tie it all together***: in the last couple of minutes, summarize the main events and points of the discussion.

Thoughts from Mark Vellend, Université de Sherbrooke

- Choose a topic that is likely to generate discussion. If several people in the room are likely to disagree with the premise or conclusion, or if some people will find the results surprising, the discussion is likely to be interesting. For my journal club "example" discussions, I chose neutral theory last year and invasions this year, both of which fit the bill.

- Think of discussion points or questions that are neither too obvious (no one wants to answer, subsequent discussion dead ends) nor too specific (no one has an answer). This is actually not so easy.

- Try to think of some questions for which you don't already have the full set of answers. That

is, you don't want the participants just guessing what you've already written down, but rather feeling like their contribution is needed and will actually determine the subsequent course of the discussion.

- You don't want too many tangents, but at the same time, if people are excited to pursue a related angle not in the plan, I would facilitate rather than discourage this. The overall goal is for people to learn something, engage intellectually, and enjoy themselves, not to walk away with a pre-defined nugget of knowledge (although that often happens too).

- Either avoid Powerpoint altogether, or keep it short and then turn it off, or black it out at least sometimes (just hit the letter "b" on the keyboard). Something about a lit-up screen draws people's eyes and keeps them from looking at each other.

- If the room is set up in a way that you have to be in front of others the whole time (ideally not the case, but it happens a lot), walk around a bit – behind the desk, in front of it, left, right, whatever. Seems silly, but standing in one spot for an hour gives a sense of stagnation.

- Ask people to think of new/better ways to test the question at hand. More generally, try to avoid just trashing a paper/topic. Being constructive is more difficult and often better at getting people thinking and discussing.